positions suitable for alleviating stress after mounting and accordingly, resin balls are connected as they are in the positionally deviated state.

On the other hand, if connection materials of the semiconductor device are partially constituted of single-layer connection materials 3 formed of Sn-Pb solder balls, for example, the Sn-Pb solder balls melt in a mounting process to perform the self-alignment function. Accordingly, composite connection materials 9 move to appropriate positions. Naturally, resin balls 1 also move to respective positions appropriate for alleviating stress after mounting. As single-layer connection materials 3 are formed of Sn-Pb solder balls, which are likely to creep, for example, the stress exerted on the semiconductor mounting structure after mounting can be alleviated to enhance the connection reliability. Instead of the Sn-Pb solder balls, solder balls like Pb-free solder based on Sn and containing Bi or the like may be used. The Pb-free solder containing Bi or the like has a high modulus of elasticity so that the connecting portion of the semiconductor mounting structure can be reinforced.

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In a mounting structure of a semiconductor device having single-layer connection materials 3 and composite connection materials 9 arranged in an area-array form, if a bending load is applied to the mounting structure for example, most of the load is applied to connection materials in outer rows. As shown in Figs. 3A and 3B, composite connection materials 9 can be arranged in outer rows A_o of the area array to allow the entire mounting structure to endure the bending load. When the bending load is exerted, the semiconductor device with a semiconductor chip has a high modulus of elasticity and thus the semiconductor device is resistant to the bending. Consequently, only the substrate deforms to cause a state close to peeling. Then, an excessive force is exerted on the outside of the mounting structure of the semiconductor device. For connection materials between the semiconductor device and the substrate, upper pads (electrodes) and lower pads (electrodes) are separated from each other so that the state of stress is like the tensile stress state. Then, elastic bodies with a low modulus of elasticity such as resin balls are included in the

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connection materials to alleviate the stress on the connecting portion by means of the resin balls. The mounting structure can thus resist bending.

IN THE CLAIMS

Please **amend** the following claim:

1. (Amended) An electronic component including, on electrodes, a plurality of connection materials connected to another electronic component,

said connection materials including

A3 a composite connection material formed of a core and a conductor covering said core, said core having a low modulus of elasticity at room temperature smaller than a modulus of elasticity of said conductor at room temperature, and

a single-layer connection material formed of a conductor.

6. (Amended) A method of mounting a semiconductor device on a substrate, comprising the steps of:

forming a composite connection member formed of a core and a conductor covering said core on a first electrode of said semiconductor device;

forming a single-layer connection member formed of a conductor on a second

A4 electrode of said semiconductor device;

forming an auxiliary connection part in contact with an upper side of one of the first electrode and the second electrode of said substrate, said auxiliary connection part being formed of a low melting-point conductor having a melting point of at most a melting point of said conductor covering said core; and

matching respective positions of said auxiliary connection part and said composite connection material to bring into contact said auxiliary connection part and said composite connection material, and heating to connect said auxiliary connection part and said composite connection material.